CITY OF BUHL (PWS 5420007)
SOURCE WATER ASSESSMENT FINAL REPORT

May 8, 2001

State of Idaho
Department of Environmental Quality

Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. This assessment is based on a land use inventory of the designated assessment area and sensitivity factors associated with the wells and aquifer characteristics.

This report, *Source Water Assessment for the City of Buhl, Idaho*, describes the public drinking water system, the boundaries of the zones of water contribution, and the associated potential contaminant sources located within these boundaries. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. **The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

The City of Buhl (PWS 5420007) drinking water system consists of four ground water sources; Well #1, Well #3, Well #5, and Well #6. Well #6 is a newly constructed well and is not yet connected to the system. From October 1993 to November 1996 total coliform bacteria were detected intermittently at four different points in the distribution system.

In December 1997 and again in August 2000, arsenic was detected in Well #1 at concentrations of 0.006 milligram per liter (mg/l) and 0.007 mg/l, respectively. The Maximum Contaminant Level (MCL) for arsenic is 0.05 mg/l. The United States Environmental Protection Agency (EPA) may lower the MCL for arsenic in the near future. From April 1994 to June 2000, nitrate levels in Well #1 ranged from 1.21 mg/l to 7.66 mg/l. The highest concentration of nitrates detected in Well #1 approaches the MCL for nitrate, 10 mg/l. In April 1994, thallium, an inorganic compound (IOC), was detected in Well #1 at a concentration of 0.003 mg/l which exceeded the MCL for thallium of 0.002 mg/l. A confirmation sample collected in November 1994 was non-detect for thallium as were all subsequent routine samples through August 2000. In July 1998, total trihalomethanes, a volatile organic compound (VOC), were detected in Well #1 at a concentration of 3.0 micrograms per liter (µg/l). Bromoform and chlordibromethane, two components of total trihalomethanes, were detected at concentrations of 2.4 µg/l and 0.6 µg/l, respectively. The MCL for total trihalomethanes is 100 µg/l. Buhl treats its drinking water with chlorine prior to distribution. Trihalomethanes are commonly detected in water treated with chlorine. Consequently, the detection of trihalomethanes in the treated water is not considered source water contamination. No synthetic organic compounds (SOCs) or microbial contaminants were detected in Well #1.

A Sanitary Survey conducted in 2000 recommended that the City of Buhl's sewer main be moved 50 feet from the Well #1 wellhead in order to meet current State Requirements. In terms of total susceptibility, Well #1 rated moderate for IOCs, VOCs, SOCs, and microbial contaminants. The presence of multiple potential sources of contamination in the Well #1 capture zone, agricultural land use, high countywide farm chemical use, and the presence of nitrate and SOC priority areas in the delineated source water assessment area contributed to the overall ratings for Well #1.

In December 1997 and again in August 2000, arsenic was detected in Well #3 at concentrations of 0.01 mg/l and 0.019 mg/l, respectively. These detections were below the current Maximum Contaminant Level (MCL) for arsenic of 0.05 mg/l. In April 1994, chromium was detected in Well #3 at a concentration of 0.002 mg/l. The MCL for chromium is 0.1 mg/l. From December 1993 to August 2000, nitrate levels in Well #3 ranged from 1.64 mg/l to 5.06 mg/l. The highest concentration of nitrates detected in Well #3 is just over 50% of the MCL for nitrate.

A Sanitary Survey conducted in 2000 recommended that the City of Buhl rectify a possible backflow issue associated with the overflow discharge line at the Well #3 wellhead. In terms of total susceptibility, Well #3 rated moderate for IOCs, VOCs, SOCs, and microbial contaminants. The moderate ratings are due mainly to

agricultural land use, high countywide farm chemical use, and the presence of nitrate and SOC priority areas in the delineated source water assessment area for Well #3.

In April 1994, chromium was detected in Well #5 at a concentration of 0.002 mg/l. This is well below the MCL of 0.1 mg/l. In December 1997 arsenic and barium were detected in Well #5 at concentrations of 0.009 mg/l and 0.017 mg/l, respectively. These detections were below the current MCL for arsenic (0.05 mg/l) and barium (2.0 mg/l). From December 1993 to August 2000, nitrate levels in Well #5 ranged from 1.64 mg/l to 2.4 mg/l. The highest concentration of nitrates detected in Well #3 is just under 25% of the MCL for nitrate.

In terms of total susceptibility, Well #5 rated moderate for IOCs, VOCs, SOCs, and microbial contaminants. The moderate ratings are due mainly to agricultural land use, high countywide farm chemical use, and the presence of nitrate and SOC priority areas in the delineated source water assessment area for Well #5.

In September 1999, arsenic, barium, and total dissolved solids (TDS) were detected in Well #6 at concentrations of 0.019 mg/l, 0.043 mg/l, and 724 mg/l, respectively. The arsenic and barium detections were below the MCL, and the TDS detection is attributed to the development of the new well. TDS is a secondary contaminant and is not regulated. From September 1999 to June 2000, nitrate levels in Well #6 ranged from 1.21 to 5.6 mg/l. The highest concentration of nitrates detected in Well #6 is just over 50% of the MCL for nitrate.

In terms of total susceptibility, Well #6 rated moderate for IOCs, VOCs, SOCs, and microbial contaminants. The moderate ratings are due mainly to agricultural land use, high countywide farm chemical use, and the presence of nitrate and SOC priority areas in the delineated source water assessment area for Well #6.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

For the City of Buhl, source water protection activities should first focus on correcting, if corrections have not been completed, the deficiencies outlined in the Sanitary Survey. If arsenic or nitrate levels in the wells increase, the City of Buhl should investigate various systems like ion exchange, reverse osmosis, or activated alumina that could be used to treat this problem. Any spills from the Eastern Idaho Railroad, Highway 30, the Low Line Canal, or the multiple potential contaminant sources in the delineated capture zones should be monitored carefully. Most of the source water protection designated areas are outside the direct jurisdiction of the City of Buhl. Partnerships with state and local agencies and industry groups should be established and are critical to success. Disinfection practices should be carefully monitored to avoid the possible formation of trihalomethanes. Due to the time involved with the movement of ground water, source water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. Source water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture, the Soil Conservation Commission, the local Soil and Water Conservation District, and the Natural Resources Conservation Service.

A community with a fully developed source water protection program will incorporate many strategies. For assistance in developing protection strategies please contact the Twin Falls Regional Office of the Idaho Department of Environmental Quality or the Idaho Rural Water Association.

SOURCE WATER ASSESSMENT FOR CITY OF BUHL, TWIN FALLS COUNTY, IDAHO

Section 1. Introduction - Basis for Assessment

The following sections contain information necessary to understand how and why this assessment was conducted. **It is important to review this information to understand what the ranking of this source means.** A map showing the delineated source water assessment area and the inventory of significant potential sources of contamination identified within that area are attached. The list of significant potential contaminant source categories and their rankings used to develop the assessment also is attached.

Background

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative susceptibility to contaminants regulated by the Safe Drinking Water Act. This assessment is based on a land use inventory of the delineated assessment area and sensitivity factors associated with the wells and aquifer characteristics.

Level of Accuracy and Purpose of the Assessment

Since there are over 2,900 public water sources in Idaho, there is limited time and resources to accomplish the assessments. All assessments must be completed by May of 2003. An in-depth, site-specific investigation of each significant potential source of contamination is not possible. **Therefore, this assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

The ultimate goal of the assessment is to provide data to local communities to develop a protection strategy for their drinking water supply system. The Idaho Department of Environmental Quality (DEQ) recognizes that pollution prevention activities generally require less time and money to implement than treatment of a public water supply system once it has been contaminated. DEQ encourages communities to balance resource protection with economic growth and development. The decision as to the amount and types of information necessary to develop a source water protection program should be determined by the local community based on its own needs and limitations. Wellhead or source water protection is one facet of a comprehensive growth plan, and it can complement ongoing local planning efforts.

Section 2. Conducting the Assessment

General Description of the Source Water Quality

The City of Buhl wells are community wells that serve approximately 3800 people and approximately 1560 connections. The wells are located in Twin Falls County, to the east of Salmon Falls Creek and to the south of the Snake River (Figure 1). The public drinking water system for City of Buhl is currently comprised of three wells: Well #1, Well #3, and Well #5. An additional, newly constructed well, Well #6, will be connected to the system in the near future.

Arsenic and nitrates represent the main water chemistry problems recorded in the public water system. The IOC nitrate was detected from December 1999 to August 2000 at levels approaching the MCL in wells #1, #3, and #6. No VOCs, SOCs, or microbial contaminants were detected in the source water of any of the wells.

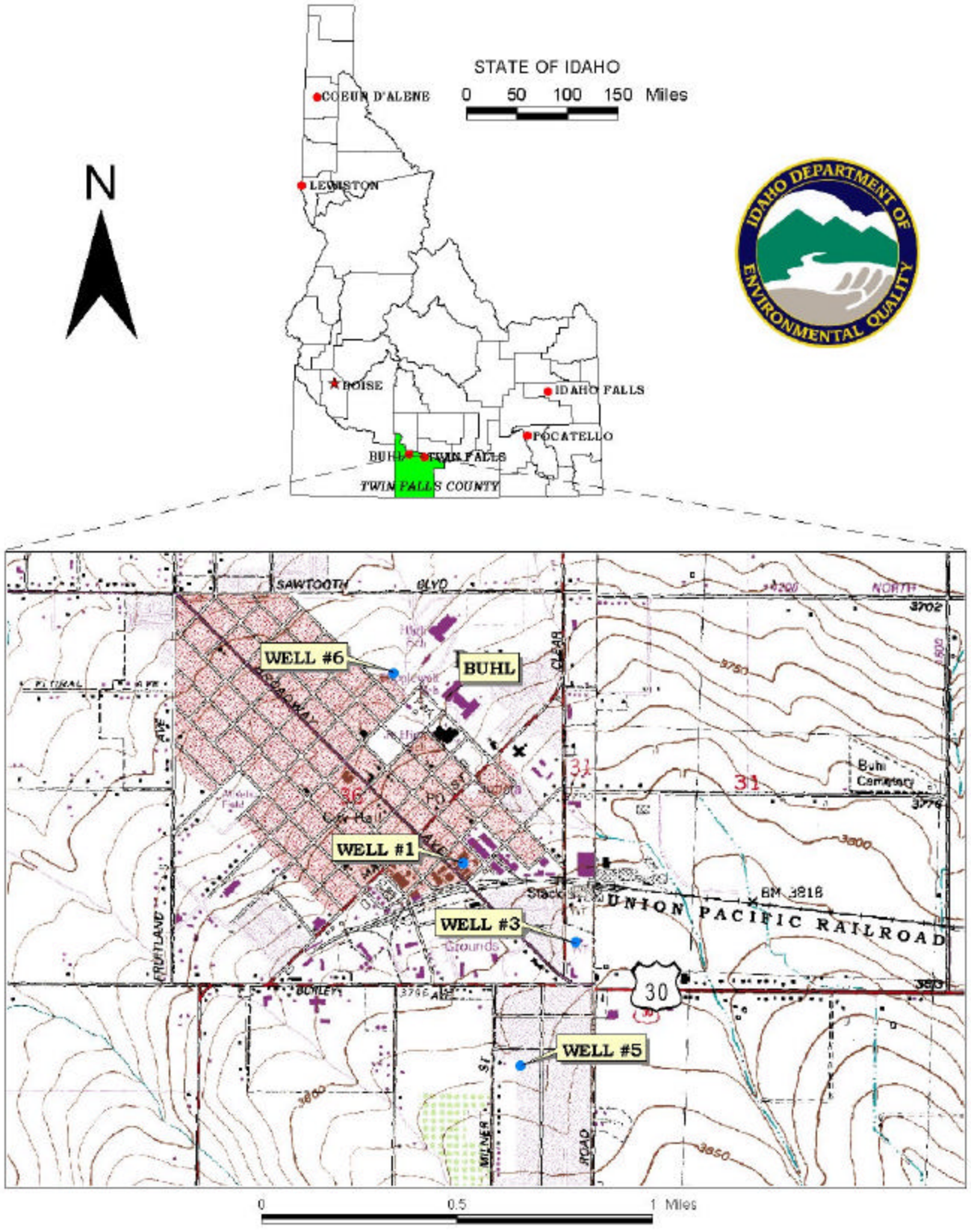
Defining the Zones of Contribution – Delineation

The delineation process establishes the physical area around a well that will become the focal point of the assessment. The process includes mapping the boundaries of the zone of contribution into time-of-travel (TOT) zones (zones indicating the number of years necessary for a particle of water to reach a well) for water in the aquifer. DEQ used a refined computer model approved by the EPA in determining the 3-year (Zone 1B), 6-year (Zone 2), and 10-year (Zone 3) TOT for water associated with the Snake River Plain aquifer and the perched aquifer in the vicinity of the City of Buhl. The computer model used site specific data, assimilated by DEQ from a variety of sources including City of Buhl well logs, other local area well logs, and hydrogeologic reports summarized below.

Wells #1, #3, and #5 extract water from the Banbury Basalt and possibly the Idavada Volcanics. The Idavada Volcanics unit consists of welded ash and tuff, rhyolite, and some basalt flows. The Idavada Volcanics are up to 2,000 feet thick in the Buhl area and contain fractures and columnar joints, allowing some mixing of the geothermal groundwater in the Idavada Volcanics with groundwater in the Banbury Basalt, which overlies the Idavada Volcanics (Lewis and Young, 1989). The Banbury Basalt is of variable thickness and is the primary non-geothermal aquifer in the Buhl area (Moffat and Jones, 1984). Basalt flows fracture at the surface as they cool. The fractures occur in the horizontal direction throughout the flow. The Banbury Basalt is fractured and contains thin sedimentary interbeds. These fractures and sedimentary interbeds comprise the water producing zones in the Banbury Basalt. A shallow, perched aquifer exists above the Banbury Basalt and extends from Buhl east to Twin Falls (Cosgrove, et. Al., 1997). Well #6 appears to extract water from the perched aquifer. According to Steve Highbarger, the operator for the City of Buhl, Well #3 caved in at a depth of 500 feet. Subsequent to the cave in, the water temperature in the well dropped and nitrate and arsenic concentrations have increased in the well. This suggests that Well #3 is now pulling part or all of its water from the perched aquifer. Regional ground water flow is to the north, but may vary with proximity to major creeks and the Snake River (Lewis and Young, 1989).

The delineated source water assessment areas for the City of Buhl wells can best be described as corridors approximately 0.3 to 1.0 mile wide and 2 miles long extending to the southeast from City of Buhl (Figures 2, 3, 4, and 5). The actual data used by DEQ in determining the source water assessment delineation areas are available upon request.

FIGURE 1. Geographic Location of the City of Buhl



Identifying Potential Sources of Contamination

A potential source of contamination is defined as any facility or activity that stores, uses, or produces, as a product or by-product, the contaminants regulated under the Safe Drinking Water Act and has a sufficient likelihood of releasing such contaminants at levels that could pose a concern relative to drinking water sources. The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of ground water contamination. The locations of potential sources of contamination within the delineation areas were obtained by field surveys conducted by DEQ and from available databases.

The dominant land use outside the City of Buhl area is irrigated agriculture. Land use within the immediate area of the wellheads consists of residential property, commercial and light industrial, and agricultural. Highway 30, the Eastern Idaho Railroad, and the Low Line Canal also run through the area.

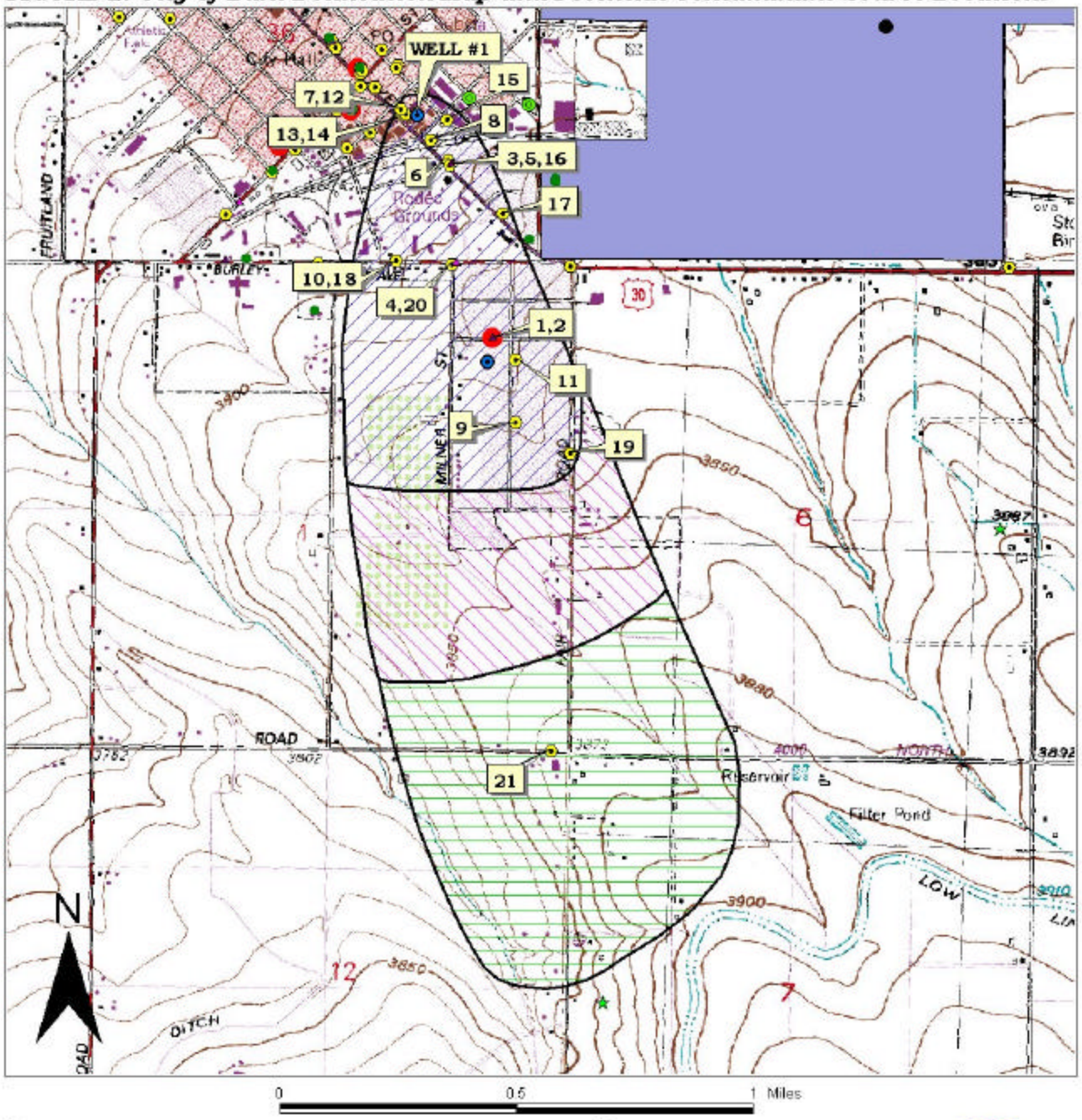
It is important to understand that a release may never occur from a potential source of contamination provided they are using best management practices. Many potential sources of contamination are regulated at the federal level, state level, or both to reduce the risk of release. Therefore, when a business, facility, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, facility, or property is in violation of any local, state, or federal environmental law or regulation. What it does mean is that the potential for contamination exists due to the nature of the business, industry, or operation. There are a number of methods that water systems can use to work cooperatively with potential sources of contamination. These involve educational visits and inspections of stored materials. Many owners of such facilities may not even be aware that they are located near a public water supply well.

Contaminant Source Inventory Process

A contaminant inventory of the study area was conducted during April 2000. This process involved identifying and documenting potential contaminant sources within City of Buhl Source Water Assessment Areas through the use of computer databases and Geographic Information System (GIS) maps developed by DEQ. The City of Buhl conducted an enhanced inventory to identify additional potential sources of contamination in the delineated source water assessment areas.

Since the delineated source water protection areas encompass various portions of the City of Buhl area, the different wells have different numbers and types of potential contaminant sources. Well #1 has a delineation that is crossed by Highway 30, the Eastern Idaho Railroad, and contains twenty-eight other potential contaminant sources (Attachment A, Table 2). Well #3 has a delineation that is crossed by Highway 30, the Low Line Canal, and contains four other potential contaminant sources (Attachment A, Table 3). Well #5 has a delineation that is crossed by the Low line Canal and contains eight other potential contaminant sources (Attachment A, Table 4). Well #6 has a delineation that is crossed by Highway 30, the Eastern Idaho Railroad, and contains seventy-four other potential contaminant sources (Attachment A, Table 5). Figures 2, 3, 4, and 5 show the locations of these various potential contaminant sites relative to the wellheads.

FIGURE 2. City of Buhl Delineation Map and Potential Contaminant Source Locations



LEGEND

Time of Travel Zones
- 1 (1 yr TOT)
- 2 (6 yr TOT)
- 3 (10 yr TOT)
- Wellhead
- Enhanced Inventory
- CERCLIS Site
- RCRIS Site
- Dairy
- LUST Site
- Closed UST Site
- Open UST Site
- Business Mailing List
- NPDES Site
- Mine
- AST
- Toxic Release Inventory
- SARA Title III Site (EPCRA)
- Recharge Point
- Injection Well
- Group1 Site
- Cyanide Site
- Landfill
- Wastewater Land App.Site

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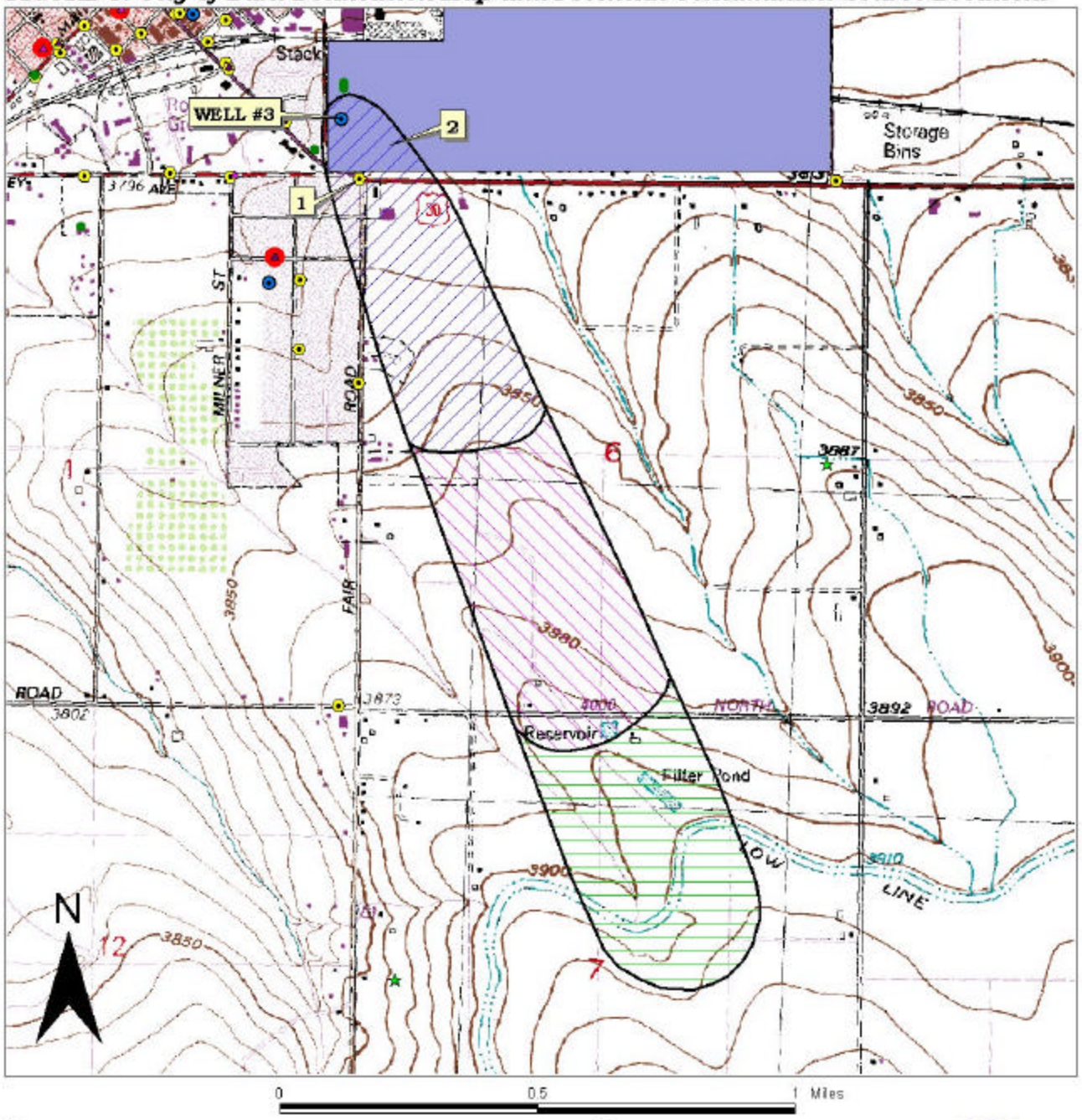
PWS# 5420007
WELL #1

FIGURE 3. City of Buhl Delineation Map and Potential Contaminant Source Locations



LEGEND

Time of Travel Zones
- 1B (3 yr TOT)
- 2 (6 yr TOT)
- 3 (10 yr TOT)
- Wellhead
- Enhanced Inventory
- CERCLIS Site
- RCRIS Site
- Dairy
- LUST Site
- Closed UST Site
- Open UST Site
- Business Mailing List
- NPDES Site
- Mine
- AST
- Toxic Release Inventory
- SARA Title III Site (EPCRA)
- Recharge Point
- Injection Well
- Group1 Site
- Cyanide Site
- Landfill
- Wastewater Land App.Site

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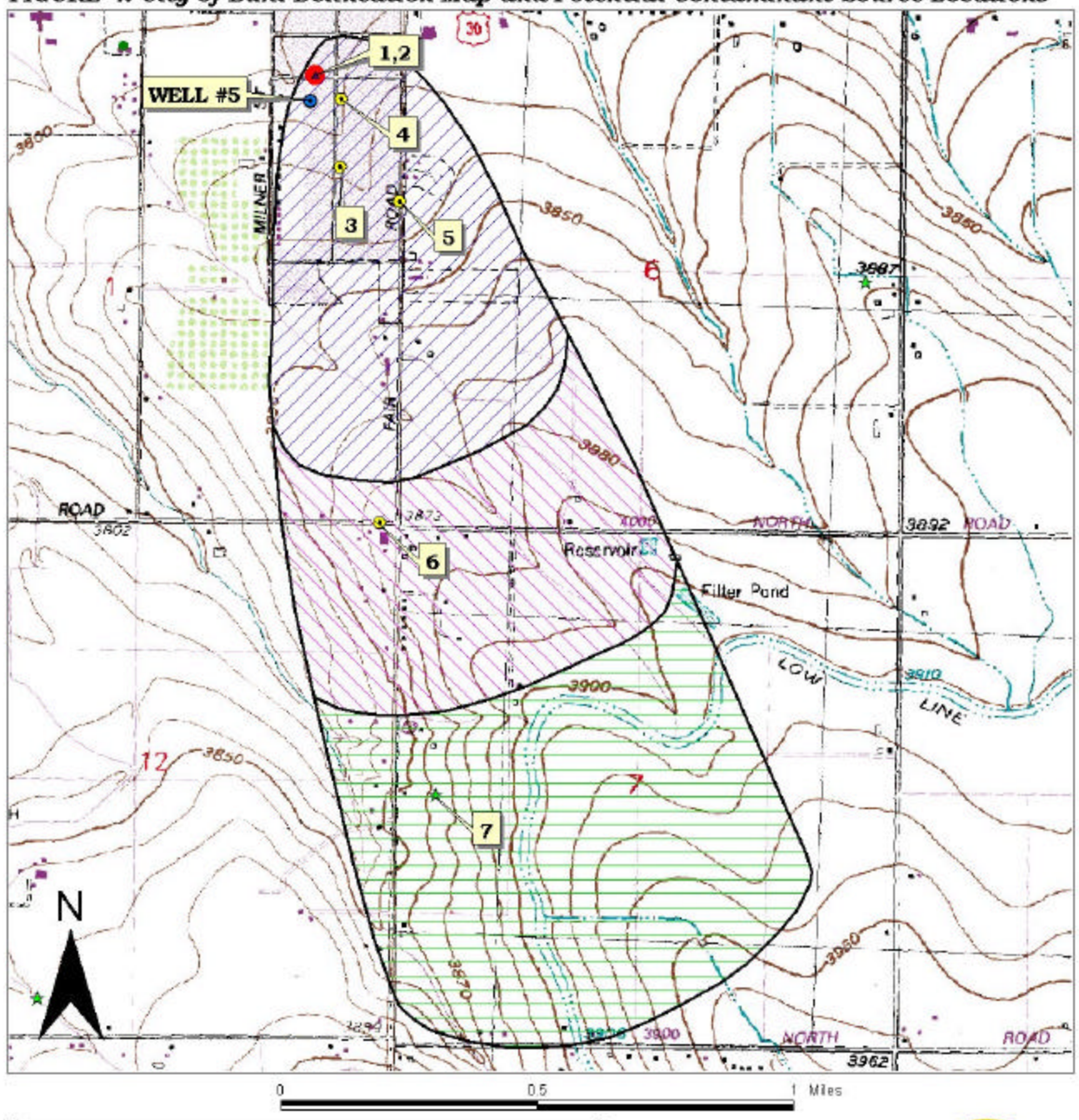
PWS# 5420007
WELL #3

FIGURE 4. City of Buhl Delineation Map and Potential Contaminant Source Locations



LEGEND

Time of Travel Zones
- 1 (1 yr TOT)
- 2 (5 yr TOT)
- 3 (10 yr TOT)
- Wellhead
- Enhanced Inventory
- CERCLIS Site
- RCRIS Site
- Dairy
- LUST Site
- Closed UST Site
- Open UST Site
- Business Mailing List
- NPDES Site
- Mine
- AST
- Toxic Release Inventory
- SARA Title III Site (EPCRA)
- Recharge Point
- Injection Well
- Group1 Site
- Cyanide Site
- Landfill
- Wastewater Land App.Site

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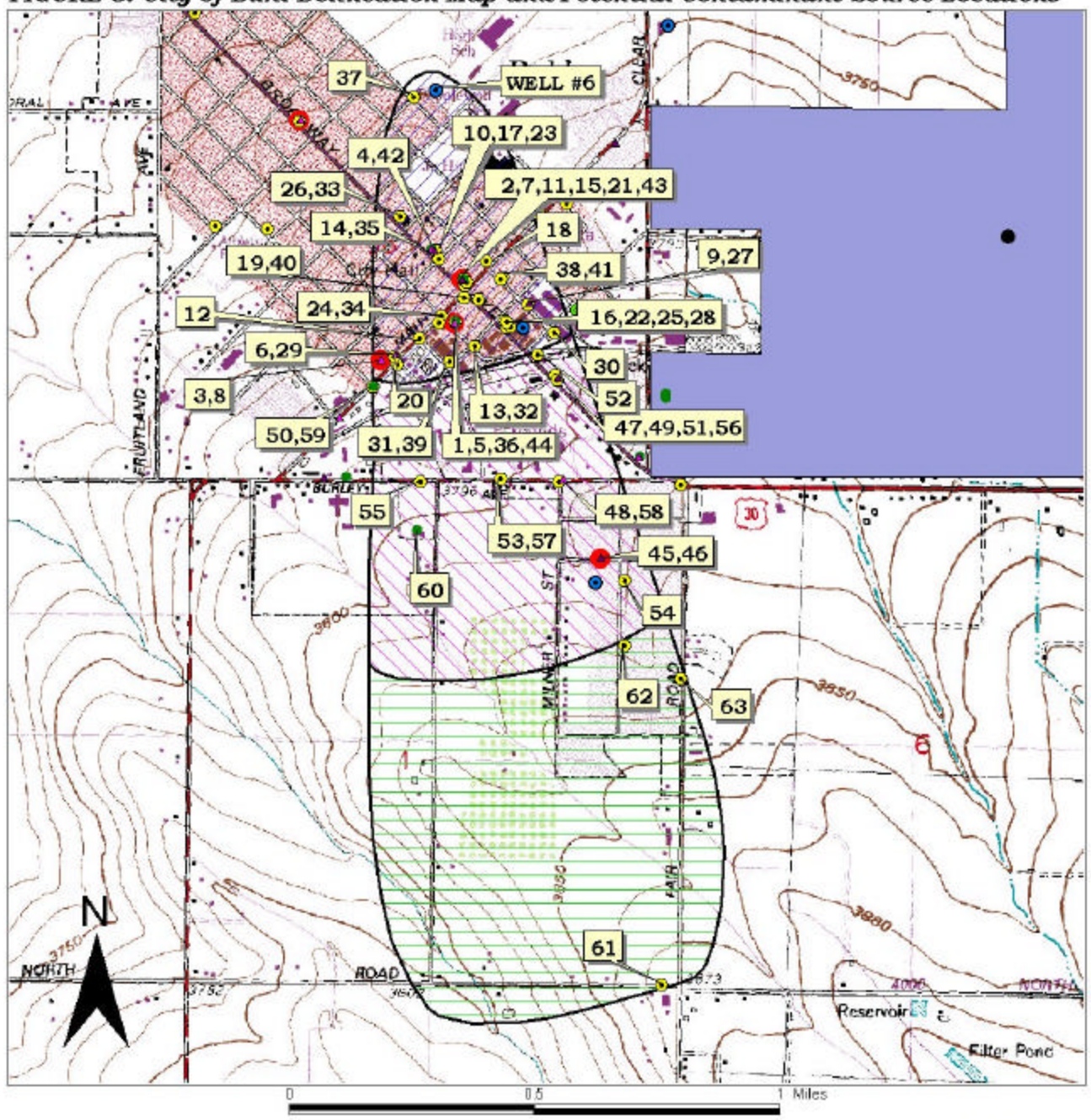
PWS# 5420007
WELL #5

FIGURE 5. City of Buhl Delineation Map and Potential Contaminant Source Locations



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PWS# 5420007
WELL #6

Section 3. Susceptibility Analyses

The water system's susceptibility to contamination was ranked as high, moderate, or low risk according to the following considerations: hydrologic characteristics, physical integrity of the well, land use characteristics, and potentially significant contaminant sources. The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. Therefore, a high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for each well is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement. The following summaries describe the rationale for the susceptibility ranking.

Hydrologic Sensitivity

Hydrologic sensitivity was moderate for all four wells (Table 1). This reflects the nature of the soils being in the moderately-drained to poorly-drained class, the vadose zone (zone from land surface to the water table) being made predominantly of fractured basalt with sedimentary interbeds, and the first ground water being located within 300 feet of ground surface. Wells #1, #3, and #5 contained at least 50 cumulative feet of low permeability units that could retard downward movement of contaminants.

Well Construction

Well construction directly affects the ability of the well to protect the aquifer from contaminants. City of Buhl drinking water system consists of three wells that extract ground water for residential, commercial, and industrial uses. A fourth well, Well #6 will be connected to the system in the future. The well system construction scores were moderate for Wells #1 and #3 and low for Wells #5 and #6. A sanitary survey for Wells #1, #3, and #5 was completed in February 2000 to determine if the wells were in compliance with wellhead and surface seal standards. Each of the wells has a maintained wellhead seal and vent, however, a sewer main exists within 50 feet of Well #1, and Wells #3 and #5 had documented deficiencies with their Cal Val drain lines. None of the wells are in the 100-year floodplain.

Well logs were available for all four wells. The highest water production zone for all the wells is at least 100 feet below static water level. The casing was extended into low permeability units in Wells #5 and #6. However, the casings for Wells #1 and #3 were not extended into a low permeability unit. Casing thicknesses were not available for Wells #1 and #3. Though the wells may have been in compliance with standards when they drilled, current PWS well construction standards are more stringent. The 0.25-inch casing thickness for Well #5 does not meet IDWR standards of 0.375 inches for 14-inch diameter casing as listed in the Recommended Standards for Water Works (1997). Well #6 is in full compliance with IDWR standards.

The IDWR Well Construction Standards Rules (1993) require all PWSs to follow DEQ standards as well. IDAPA 58.01.08.550 requires that PWSs follow the Recommended Standards for Water Works (1997) during construction. Under current standards, all PWS wells are required to have a 50 foot buffer around the wellhead. Well #1 was constructed prior to the adoption of the current standards. Consequently, the City of Buhl is not required to move the sewer line.

Potential Contaminant Sources and Land Use

All four wells rated high for IOCs (e.g., nitrates), VOCs (e.g., petroleum products), and SOCs (e.g., pesticides). Agricultural land use, the presence of a nitrate priority area, the presence of an organics priority area (the SOC Atrazine), and the presence of multiple potential contaminant sources within the delineated source water assessment area contributed to the rankings. Wells #3, #5, and #6 rated low for microbial contaminants and Well #1 rated moderate for microbial contaminants. These ratings are due to land use and multiple potential contaminant sources in the delineated source water area, although these sources are less numerous than for

IOCs, VOCs, and SOCs. Attachment A contains tables for each well listing the potential contaminant sources in the delineated source water area for each well.

Final Susceptibility Ranking

A detection above a drinking water standard MCL or a detection of total coliform bacteria or fecal coliform bacteria at the wellhead will automatically give a high susceptibility rating to a well despite the land use of the area because a pathway for contamination already exists. Hydrologic sensitivity and system construction scores are heavily weighted in the final scores. Having multiple potential contaminant sources in the 0 to 3-year time of travel zone (Zone 1B) and a large percentage of agricultural land contribute greatly to the overall ranking. In terms of total susceptibility, all four wells rate moderate for IOC, VOC, SOC, and microbial contaminant susceptibility. The moderate rating reflects the presence of a nitrates and organics priority area and the multiple potential contaminant sources in the delineated source water assessment areas for all four wells.

Table 1. Summary of the City of Buhl Susceptibility Evaluation

Well	Susceptibility Scores[1]									
	Hydrologic Sensitivity	Contaminant Inventory				System Construction	Final Susceptibility Ranking			
		IOC	VOC	SOC	Microbials		IOC	VOC	SOC	Microbials
Well #1	M	H	H	H	M	M	M	M	M	M
Well #3	M	H	H	H	L	M	M	M	M	M
Well #5	M	H	H	H	L	L	M	M	M	M
Well #6	M	H	H	H	L	L	M	M	M	M

[1]H = High Susceptibility, M = Moderate Susceptibility, L = Low Susceptibility,
IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Susceptibility Summary

Arsenic and nitrates represent the main water chemistry problems recorded in the public water system. The IOC nitrate was detected from December 1999 to August 2000 at levels approaching the MCL in wells #1, #3, and #6. The IOC thallium was detected above the MCL in Well #1 in April 1994, however, this detection was not confirmed by repeat and routine samples. Total dissolved solids were detected in Well #6 in September 1999. Total dissolved solids are considered a secondary contaminant and are not regulated. Total trihalomethanes were detected in treated water extracted by Well #1 in July 1998. Trihalomethanes are a common byproduct of chlorine treatment and are not considered a VOC contaminant. No VOC, SOC, or microbial contaminants were detected in the wells. The City of Buhl is not required to monitor for trihalomethanes, and does so voluntarily.

A nitrate priority area and an organics priority area (for the SOC Atrazine) cross the delineated source water areas of all four wells. Countywide farm chemical use is considered high in this area and the delineated source water area for the wells is surrounded by a significant amount of irrigated agricultural land. Additionally, multiple potential sources of contamination exist in the delineated source water areas for all four wells.

Section 4. Options for Source Water Protection

The susceptibility assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what the susceptibility ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous

industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

An effective source water protection program is tailored to the particular local source water protection area. A community with a fully developed source water protection program will incorporate many strategies. For the City of Buhl, source water protection activities should focus on implementation of practices aimed at protecting the area nearest the wells and addressing any deficiencies listed in the 2000 Sanitary Survey. The City of Buhl should also be diligent about local businesses that are regulated by the various environmental regulations (RCRA, CERCLA, SARA) or those with potential IOC, VOC, SOC, or microbial contaminants. Though water quality is generally good for City of Buhl, the highly fractured nature of the basalt aquifer could lead to cross-contamination from shallower fractures to deeper fractures depending on well construction. Any spills from the Eastern Idaho Railroad, Highway 30, the Low Line Canal, or the multiple potential contaminant sources in the delineated capture zones should be monitored carefully. Any surface releases should be monitored to prevent contaminants from infiltrating to the ground water producing zones.

The City of Buhl could choose to relocate the sewer main 50 feet from Well #1 in order to protect the well against potential microbial contamination. Well #3 could be re-drilled and cased down to a low permeability layer in order to correct any impacts the recent cave in may have had. Well #6 could be drilled deeper and cased to a low permeability unit in order to extract water from the deeper aquifer rather than the shallow, perched aquifer. If arsenic and nitrate concentrations in the wells increase, the City of Buhl should investigate various systems like ion exchange, reverse osmosis, or activated alumina that could be used to treat this problem. Disinfection practices should be carefully monitored to avoid the possible formation of trihalomethanes. Most of the designated source water protection areas are outside the direct jurisdiction of City of Buhl. Partnerships with state and local agencies and industry groups should be established and are critical to success. Continued vigilance in keeping the well protected from surface flooding can also keep the potential for contamination reduced. Due to the time involved with the movement of ground water, wellhead protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. Source water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture, the Soil Conservation Commission, the local Soil and Water Conservation District, and the Natural Resources Conservation Service.

Assistance

Public water supplies and others may call the following DEQ offices with questions about this assessment and to request assistance with developing and implementing a local protection plan. In addition, draft protection plans may be submitted to the DEQ office for preliminary review and comments.

Boise Regional DEQ Office (208) 736-2190

State DEQ Office (208) 373-0502

Website: http://www2.state.id.us/deq

Water suppliers serving fewer than 10,000 persons may contact John Bokor, Idaho Rural Water Association, at 1-800-962-3257 for assistance with wellhead protection strategies.

POTENTIAL CONTAMINANT INVENTORY
LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as "Superfund" is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.

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Attachment A

City of Buhl
Potential Contaminant Tables

Table 2. City of Buhl Well #1, Potential Contaminant Inventory

Site #	Source Description	TOT Zone[1] (years)	Source of Information	Potential Contaminants[2]
	Highway 30	0-3	GIS Map	IOC, VOC, SOC, Microbes
	Eastern Idaho Railroad	0-3	GIS Map	IOC, VOC, SOC, Microbes
1	Twin Falls Canal Co. – site clean up, unknown impact	0-3	Database Search	IOC, VOC, SOC, Microbes
2	Buhl Yard	0-3	Database Search	IOC, VOC, SOC, Microbes
3	Automobile Dealership, closed	0-3	Database Search	VOC, SOC
4	Gas Station, open	0-3	Enhanced Inventory	IOC, VOC, SOC
5	Farm Equipment, wholesale	0-3	Database Search	IOC, VOC, SOC
6	Automobile Repair and Service	0-3	Database Search	IOC, VOC, SOC
7	Cleaners	0-3	Database Search	VOC
8	Service Station, Gasoline and oil	0-3	Database Search	VOC, SOC
9	Automobile Radiator Repair	0-3	Enhanced Inventory	IOC, VOC, SOC
10	Automobile Repair and Service	0-3	Database Search	IOC, VOC, SOC
11	Pump Equipment	0-3	Database Search	IOC, VOC, SOC
12	Machine Shop	0-3	Database Search	IOC, VOC, SOC
13	Hardware, retail	0-3	Database Search	VOC, SOC
14	Sheet Metal Fabricator	0-3	Database Search	IOC, VOC, SOC
15	Food Preparation	0-3	Database Search	IOC, VOC, Microbes
16	Automobile Dealer	0-3	Database Search	VOC, SOC
17	Storage, household and commercial	0-3	Database Search	IOC, VOC, SOC, Microbes
18	Service Station, gasoline and oil	0-3	Database Search	VOC, SOC
19	Hay, wholesale	0-3	Database Search	Microbes
20	Truck Repair and Servicing	0-3	Enhanced Inventory	IOC, VOC, SOC
21	Farm Chemicals	0-3	Enhanced Inventory	IOC, VOC, SOC
22	Demossers, old agricultural chemicals	0-3	Enhanced Inventory	IOC, VOC, SOC
23	Underground Storage Tank site	0-3	Enhanced Inventory	VOC, SOC
24	Underground Storage Tank site, closed	0-3	Enhanced Inventory	VOC, SOC
25	Underground Storage Tank site	0-3	Enhanced Inventory	VOC, SOC
26	Underground Storage Tank site, closed	0-3	Enhanced Inventory	VOC, SOC
27	Leaking Underground Storage Tank site, (1980s)	0-3	Enhanced Inventory	VOC, SOC
28	Pallet and Skid Manufacturer	6-10	Database Search	IOC, VOC, SOC

[1] TOT = time-of-travel (in years) for a potential contaminant to reach the wellhead
[2] IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Table 3. City of Buhl Well #3, Potential Contaminant Inventory

Site #	Source Description	TOT Zone[1] (years)	Source of Information	Potential Contaminants[2]
	Highway 30	0-3	GIS Map	IOC, VOC, SOC, Microbes
1	Automobile Parts and Supplies	0-3	Database Search	IOC, VOC, SOC
2	Vegetable Processing	0-3	Database Search	IOC, VOC, Microbes
3	Underground Storage Tank site	0-3	Enhanced Inventory	VOC, SOC
4	Underground Storage Tank site	0-3	Enhanced Inventory	VOC, SOC
	Low Line Canal	6-10	GIS Map	IOC, VOC, SOC, Microbes

[1] TOT = time-of-travel (in years) for a potential contaminant to reach the wellhead
[2] IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Table 4. City of Buhl Well #5, Potential Contaminant Inventory

Site #	Source Description	TOT Zone[1] (years)	Source of Information	Potential Contaminants[2]
1	Twin Falls Canal Co. – site clean up, unknown impact	0-3	Database Search	IOC, VOC, SOC, Microbes
2	Buhl Yard	0-3	Database Search	IOC, VOC, SOC, Microbes
3	Automobile Radiator Repair	0-3	Enhanced Inventory	IOC, VOC, SOC
4	Pump Equipment	0-3	Database Search	IOC, VOC, SOC
5	Hay, wholesale	0-3	Database Search	Microbes
6	Farm Chemicals	0-3	Enhanced Inventory	
7	Pallets and Skid Manufacturer	3-6	Database Search	
8	201 – 500 Cows	6-10	Database Search	
	Low Line Canal	6-10	GIS Map	IOC, VOC, SOC, Microbes

[1] TOT = time-of-travel (in years) for a potential contaminant to reach the wellhead
[2] IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Table 5. City of Buhl Well #6, Potential Contaminant Inventory

Site #	Source Description	TOT Zone[1] (years)	Source of Information	Potential Contaminants[2]
	Eastern Idaho Railroad	0-3	GIS Map	IOC, VOC, SOC, Microbes
	Highway 30	3-6	GIS Map	IOC, VOC, SOC, Microbes
1	Buhl Co-op, Site Cleanup, unknown impact	0-3	Database Search	IOC, VOC, SOC, Microbes
2	Leo Lortz, Site Cleanup, unknown impact	0-3	Database Search	IOC, VOC, SOC, Microbes
3	Kountry Corner, Site Cleanup, unknown impact	0-3	Database Search	IOC, VOC, SOC, Microbes
4	Gas Station	0-3	Database Search	VOC, SOC
5	Gas Station	0-3	Database Search	VOC, SOC
6	Rangen, Inc., not listed, closed	0-3	Database Search	IOC, VOC, SOC, Microbes
7	Leo Lortz, closed	0-3	Database Search	IOC, VOC, SOC, Microbes
8	Gas Station	0-3	Database Search	VOC, SOC
9	Public Works Department Warehouse, closed	0-3	Database Search	IOC, VOC, SOC
10	Automobile Dealership, closed	0-3	Database Search	VOC, SOC
11	Printers	0-3	Database Search	IOC, VOC
12	Automobile Repair and Service	0-3	Database Search	IOC, VOC, SOC
13	Veterinarians	0-3	Database Search	IOC, Microbes
14	Buhl City Fire Department	0-3	Database Search	VOC, SOC
15	Newspaper Publisher	0-3	Database Search	IOC, VOC
16	Cleaners	0-3	Database Search	VOC
17	Automobile Dealership	0-3	Database Search	VOC, SOC
18	Farm Management Service	0-3	Enhanced Inventory	IOC, VOC, SOC
19	Automobile Repairing and Service	0-3	Database Search	IOC, VOC, SOC
20	Gasoline, wholesale	0-3	Database Search	VOC, SOC
21	Automobile Parts and Supplies, retail	0-3	Database Search	IOC, VOC, SOC
22	Machine Shop	0-3	Database Search	IOC, VOC, SOC
23	Automobile Renting and Leasing	0-3	Database Search	VOC, SOC
24	Automobile Service	0-3	Database Search	IOC, VOC, SOC
25	Hardware, Retail	0-3	Database Search	VOC, SOC
26	Animal Health Products	0-3	Database Search	IOC
27	Public Works Department	0-3	Database Search	IOC, VOC, SOC
28	Sheet Metal Fabricator	0-3	Database Search	IOC, VOC, SOC

Site #	Source Description	TOT Zone[1] (years)	Source of Information	Potential Contaminants[2]
29	Feed Dealer	0-3	Database Search	IOC, SOC, Microbes
30	Food Preparations	0-3	Database Search	IOC, VOC, Microbes
31	Automobile Body – repair and painting	0-3	Database Search	IOC, VOC, SOC
32	Veterinarians	0-3	Database Search	IOC, Microbes
33	Farm	0-3	Database Search	IOC, SOC, Microbes
34	Automobile Repair and Service	0-3	Database Search	IOC, VOC, SOC
35	County Government Transportation Program	0-3	Database Search	IOC, VOC, SOC
36	Farm Supplies	0-3	Database Search	IOC, SOC, Microbes
37	Plumbing, Drain, and Sewer Cleaning	0-3	Database Search	IOC, Microbes
38	Welding	0-3	Database Search	IOC, VOC, SOC
39	Automobile Racing Car Equipment	0-3	Database Search	IOC, VOC, SOC
40	Automobile Parts and Supplies, retail	0-3	Database Search	IOC, VOC, SOC
41	Service Station, gasoline and oil	0-3	Database Search	VOC, SOC
42	Service Station, gasoline and oil	0-3	Database Search	VOC, SOC
43	US West Communication	0-3	Database Search	IOC, VOC, SOC
44	Farm Supplies	0-3	Database Search	IOC, SOC, Microbes
45	Underground Storage Tank site, closed	0-3	Enhanced Inventory	VOC, SOC
46	Underground Storage Tank site	0-3	Enhanced Inventory	VOC, SOC
47	Underground Storage Tank site, closed	0-3	Enhanced Inventory	VOC, SOC
48	Underground Storage Tank site, closed	0-3	Enhanced Inventory	VOC, SOC
49	Underground Storage Tank site, closed	0-3	Enhanced Inventory	VOC, SOC
50	Underground Storage Tank site, closed	0-3	Enhanced Inventory	VOC, SOC
51	Twin Falls Canal Co. – site clean up, unknown impact	3-6	Database Search	IOC, VOC, SOC, Microbes
52	Buhl Yard	3-6	Database Search	IOC, VOC, SOC, Microbes
53	Automobile Dealership, closed	3-6	Database Search	VOC, SOC
54	Gas Station, open	3-6	Enhanced Inventory	IOC, VOC, SOC
55	Farm Equipment, wholesale	3-6	Database Search	IOC, VOC, SOC
56	Automobile Repair and Service	3-6	Database Search	IOC, VOC, SOC
57	Cleaners	3-6	Database Search	VOC
58	Service Station, Gasoline and oil	3-6	Database Search	VOC, SOC
59	Automobile Radiator Repair	3-6	Enhanced Inventory	IOC, VOC, SOC
60	Automobile Repair and Service	3-6	Database Search	IOC, VOC, SOC
61	Tire Dealer, retail	3-6	Database Search	IOC, VOC, SOC
62	Automobile Dealer	3-6	Database Search	VOC, SOC
63	Service Station, gasoline and oil	3-6	Database Search	VOC, SOC
64	Truck Repair and Servicing	3-6	Enhanced Inventory	IOC, VOC, SOC
65	Franklin United, Inc., unknown	3-6	Database Search	IOC, SOC, VOC, Microbes
66	Petroleum Products Wholesalers	3-6	Database Search	VOC, SOC
67	Farm Chemicals	3-6	Enhanced Inventory	IOC, VOC, SOC
68	Demossers, old agricultural chemicals	3-6	Enhanced Inventory	IOC, VOC, SOC
69	Underground Storage Tank site	3-6	Enhanced Inventory	VOC, SOC
70	Underground Storage Tank site, closed	3-6	Enhanced Inventory	VOC, SOC
71	Leaking Underground Storage Tank site, (1980s)	3-6	Enhanced Inventory	VOC, SOC
72	Pallet and Skid Manufacturer	6-10	Database Search	IOC, VOC, SOC
73	Pump Equipment	6-10	Database Search	IOC, SOC, VOC
74	Hay, wholesale	6-10	Database Search	Microbes

[1] TOT = time-of-travel (in years) for a potential contaminant to reach the wellhead

[2] IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Attachment B

City of Buhl
Susceptibility Analysis
Worksheet

The final scores for the susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.2)

2) 2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Scoring:

0 - 5 Low Susceptibility

6 - 12 Moderate Susceptibility

≥ 13 High Susceptibility

Ground Water Susceptibility Report Public Water System Name :BUHL CITY OF Well# : WELL #1
Public Water System Number 5420007 4/24/01 8:46:59 AM

1. System Construction		SCORE			
Drill Date	4/1/46				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES	2000			
Well meets IDWR construction standards	NO	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	NO	2			
Highest production 100 feet below static water level	YES	0			
Well located outside the 100 year flood plain	YES	0			
	Total System Construction Score	3			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	YES	0			
Vadose zone composed of gravel, fractured rock or unknown	YES	1			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	YES	0			
	Total Hydrologic Score	2			
3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	IRRIGATED CROPLAND	2	2	2	2
Farm chemical use high	YES	2	0	2	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
	Total Potential Contaminant Source/Land Use Score - Zone 1A	4	2	4	2
Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)	YES	16	27	25	4
(Score = # Sources X 2) 8 Points Maximum		8	8	8	8
Sources of Class II or III leacheable contaminants or	YES	16	16	12	
4 Points Maximum		4	4	4	
Zone 1B contains or intercepts a Group 1 Area	YES	2	0	2	0
Land use Zone 1B	Greater Than 50% Irrigated Agricultural Land	4	4	4	4
	Total Potential Contaminant Source / Land Use Score - Zone 1B	18	16	18	12
Potential Contaminant / Land Use - ZONE II					
Contaminant Sources Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or	NO	0	0	0	
Land Use Zone II	Greater Than 50% Non-Irrigated Agricultural	1	1	1	
	Potential Contaminant Source / Land Use Score - Zone II	1	1	1	0
Potential Contaminant / Land Use - ZONE III					
Contaminant Source Present	YES	1	1	1	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Is there irrigated agricultural lands that occupy > 50% of	YES	1	1	1	
	Total Potential Contaminant Source / Land Use Score - Zone III	3	3	3	0
Cumulative Potential Contaminant / Land Use Score		26	22	26	14
4. Final Susceptibility Source Score		10	9	10	10
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate

Ground Water Susceptibility Report Public Water System Name : BUHL CITY OF Well# : WELL #3
Public Water System Number 5420007 4/24/01 8:46:59 AM

1. System Construction		SCORE			
Drill Date	4/1/61				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES	2000			
Well meets IDWR construction standards	NO	1			
Wellhead and surface seal maintained	NO	1			
Casing and annular seal extend to low permeability unit	NO	2			
Highest production 100 feet below static water level	YES	0			
Well located outside the 100 year flood plain	YES	0			
	Total System Construction Score	4			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	YES	0			
Vadose zone composed of gravel, fractured rock or unknown	YES	1			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	YES	0			
	Total Hydrologic Score	2			
3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	IRRIGATED CROPLAND	2	2	2	2
Farm chemical use high	YES	2	0	2	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
	Total Potential Contaminant Source/Land Use Score - Zone 1A	4	2	4	2
Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)	YES	3	5	4	2
(Score = # Sources X 2) 8 Points Maximum		6	8	8	4
Sources of Class II or III leacheable contaminants or	YES	4	4	4	
4 Points Maximum		4	4	4	
Zone 1B contains or intercepts a Group 1 Area	YES	2	0	2	0
Land use Zone 1B	Greater Than 50% Non-Irrigated Agricultural	2	2	2	2
	Total Potential Contaminant Source / Land Use Score - Zone 1B	14	14	16	6
Potential Contaminant / Land Use - ZONE II					
Contaminant Sources Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or	NO	0	0	0	
Land Use Zone II	Greater Than 50% Irrigated Agricultural Land	2	2	2	
	Potential Contaminant Source / Land Use Score - Zone II	2	2	2	0
Potential Contaminant / Land Use - ZONE III					
Contaminant Source Present	YES	1	1	1	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Is there irrigated agricultural lands that occupy > 50% of	YES	1	1	1	
	Total Potential Contaminant Source / Land Use Score - Zone III	3	3	3	0
Cumulative Potential Contaminant / Land Use Score		23	21	25	8
4. Final Susceptibility Source Score		11	10	11	9
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate

Ground Water Susceptibility Report Public Water System Name : BUHL CITY OF Well# : WELL #5
Public Water System Number 5420007 4/24/01 8:46:59 AM

1. System Construction		SCORE			
Drill Date	1/17/90				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES	2000			
Well meets IDWR construction standards	NO	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	YES	0			
Highest production 100 feet below static water level	YES	0			
Well located outside the 100 year flood plain	YES	0			
Total System Construction Score		1			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	YES	0			
Vadose zone composed of gravel, fractured rock or unknown	YES	1			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	YES	0			
Total Hydrologic Score		2			
3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	IRRIGATED CROPLAND	2	2	2	2
Farm chemical use high	YES	2	0	2	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		4	2	4	2
Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)	YES	5	5	6	1
(Score = # Sources X 2) 8 Points Maximum		8	8	8	2
Sources of Class II or III leacheable contaminants or	YES	9	4	4	
4 Points Maximum		4	4	4	
Zone 1B contains or intercepts a Group 1 Area	YES	2	0	2	0
Land use Zone 1B	Greater Than 50% Irrigated Agricultural Land	4	4	4	4
Total Potential Contaminant Source / Land Use Score - Zone 1B		18	16	18	6
Potential Contaminant / Land Use - ZONE II					
Contaminant Sources Present	YES	2	2	2	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Land Use Zone II	Greater Than 50% Irrigated Agricultural Land	2	2	2	
Potential Contaminant Source / Land Use Score - Zone II		5	5	5	0
Potential Contaminant / Land Use - ZONE III					
Contaminant Source Present	YES	1	1	1	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Is there irrigated agricultural lands that occupy > 50% of	YES	1	1	1	
Total Potential Contaminant Source / Land Use Score - Zone III		3	3	3	0
Cumulative Potential Contaminant / Land Use Score		30	26	30	8
4. Final Susceptibility Source Score		9	8	9	6
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate

Ground Water Susceptibility Report Public Water System Name :BUHL CITY OF Well# : WELL #6

Public Water System Number 5420007 4/24/01 8:46:59 AM

1. System Construction		SCORE				
Drill Date	9/22/99					
Driller Log Available	YES					
Sanitary Survey (if yes, indicate date of last survey)	YES	2000				
Well meets IDWR construction standards	NO	1				
Wellhead and surface seal maintained	YES	0				
Casing and annular seal extend to low permeability unit	YES	0				
Highest production 100 feet below static water level	YES	0				
Well located outside the 100 year flood plain	YES	0				
Total System Construction Score		1				
2. Hydrologic Sensitivity						
Soils are poorly to moderately drained	YES	0				
Vadose zone composed of gravel, fractured rock or unknown	YES	1				
Depth to first water > 300 feet	NO	1				
Aquitard present with > 50 feet cumulative thickness	NO	2				
Total Hydrologic Score		4				
3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score	
Land Use Zone 1A	URBAN		2	2	2	2
Farm chemical use high	YES	2	0	2		
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO	
Total Potential Contaminant Source/Land Use Score - Zone 1A		4	2	4	2	
Potential Contaminant / Land Use - ZONE 1B						
Contaminant sources present (Number of Sources)	YES	32	40	41	12	
(Score = # Sources X 2) 8 Points Maximum		8	8	8	8	
Sources of Class II or III leacheable contaminants or	YES	28	32	32		
4 Points Maximum		4	4	4		
Zone 1B contains or intercepts a Group 1 Area	YES	2	0	2	0	
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone 1B		14	12	14	8	
Potential Contaminant / Land Use - ZONE II						
Contaminant Sources Present	YES	2	2	2		
Sources of Class II or III leacheable contaminants or	YES	1	1	1		
Land Use Zone II	25 to 50% Irrigated Agricultural Land	1	1	1		
Potential Contaminant Source / Land Use Score - Zone II		4	4	4	0	
Potential Contaminant / Land Use - ZONE III						
Contaminant Source Present	YES	1	1	1		
Sources of Class II or III leacheable contaminants or	YES	1	1	1		
Is there irrigated agricultural lands that occupy > 50% of	YES	1	1	1		
Total Potential Contaminant Source / Land Use Score - Zone III		3	3	3	0	
Cumulative Potential Contaminant / Land Use Score		25	21	25	10	
4. Final Susceptibility Source Score		10	9	10	9	
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate	